

1 **Q. (Reference Application, LED Street Lighting Replacement Plan) Who is the**  
 2 **manufacturer of LED street lights that are currently installed in the Province and**  
 3 **where were they manufactured? Are these lights designed specifically for the NL**  
 4 **climate and environmental conditions? What type of warranty is on the currently**  
 5 **installed street lights and what type of warranty does NP expect on new LED street**  
 6 **lights that it proposes to purchase? Please confirm that NP expects the warranty to**  
 7 **be adequate for environmental conditions in the Province. What is the useful life,**  
 8 **that is, the estimated lifespan, of these LEDs?**

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 10 A. Newfoundland Power's current supplier of LED street lights is LED Roadway Lighting  
 11 Ltd. ("LRL") which is headquartered in Halifax, Nova Scotia. LRL has manufacturing  
 12 locations in Canada, China, and the Caribbean with its primary manufacturing facility  
 13 located in Amherst, Nova Scotia. LRL LED street lights are used throughout Atlantic  
 14 Canada.<sup>1</sup> LRL LED street lights are also used worldwide in over 60 countries.<sup>2</sup> The  
 15 LED street lights supplied by LRL meet Newfoundland Power's *LED Street Lighting*  
 16 *Luminaire Specification* (the "LED Spec").<sup>3</sup>

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 18 Newfoundland Power's LED Spec was developed specifically for the procurement of  
 19 LED street lights that are suitable for the climate and environmental conditions in the  
 20 Company's service territory. The LED Spec requires that LED street lights have the  
 21 ability to operate normally in: (i) winds up to 160kph; (ii) driving rain; (iii) snow and  
 22 sleet; (iv) fog; and (v) in ambient temperatures ranging from -30°C to +40°C. The LED  
 23 Spec also requires a corrosion resistant housing and the protection of internal components  
 24 from weather. LED street lights used by Newfoundland Power are required to comply  
 25 with several industry standards.<sup>4</sup>

26  
 27 Newfoundland Power's street lighting fixtures are estimated to be in operation for 4,200  
 28 hours per year. The LED Spec requires that Newfoundland Power's LED street lights be  
 29 rated for a minimum life of 100,000 operating hours, or approximately 24 years.<sup>5</sup> LED  
 30 street lights that Newfoundland Power is currently purchasing have a 20-year limited  
 31 warranty. If any part of the LED street light fails or becomes defective due to faulty  
 32 workmanship, material or design within a period of ten years after the date of purchase,  
 33 the LED street light will be replaced (or repaired) and delivered by the LED street light

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<sup>1</sup> In 2012, NB Power selected LRL to supply approximately 72,000 LED street light fixtures to replace its High Pressure Sodium ("HPS") fixtures over a 5-year period. In 2012, Nova Scotia Power also selected LRL to supply up to 85,000 LED street lights for deployment across Nova Scotia.

<sup>2</sup> For additional information about LRL, visit <http://liveablecities.com/about>.

<sup>3</sup> A review of the appropriateness of Newfoundland Power's LED Spec was included in the *2021 Capital Budget Application, Volume 1, LED Street Light Replacement Plan, Appendix C – CBCL Limited Report, Section 2.3 – LED Street Lighting Luminaire Specification*.

<sup>4</sup> Industry standards include CSA C22.2 No. 250.0 Luminaires, ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus, ANSI/IEC 60529 – NEMA: Degrees of Protection Provided by Enclosures – IP Code, ANSI/IEEE C62.41 – IEEE Recommended Practice for Surge Voltages in Low Voltage AC Power Circuits, ANSI C136.31 – Luminaire Vibration.

<sup>5</sup> 100,000 hours / 4,200 hours per year = 23.8 years.

- 1 supplier. For failures that occur beyond 10 years, Newfoundland Power will continue to
- 2 receive compensation, albeit at a reduced amount.